

(16,336.)

SUPREME COURT OF THE UNITED STATES.

OCTOBER TERM, 1897.

No. 198.

WILLIAM WHEELER HUBBELL, APPELLANT,

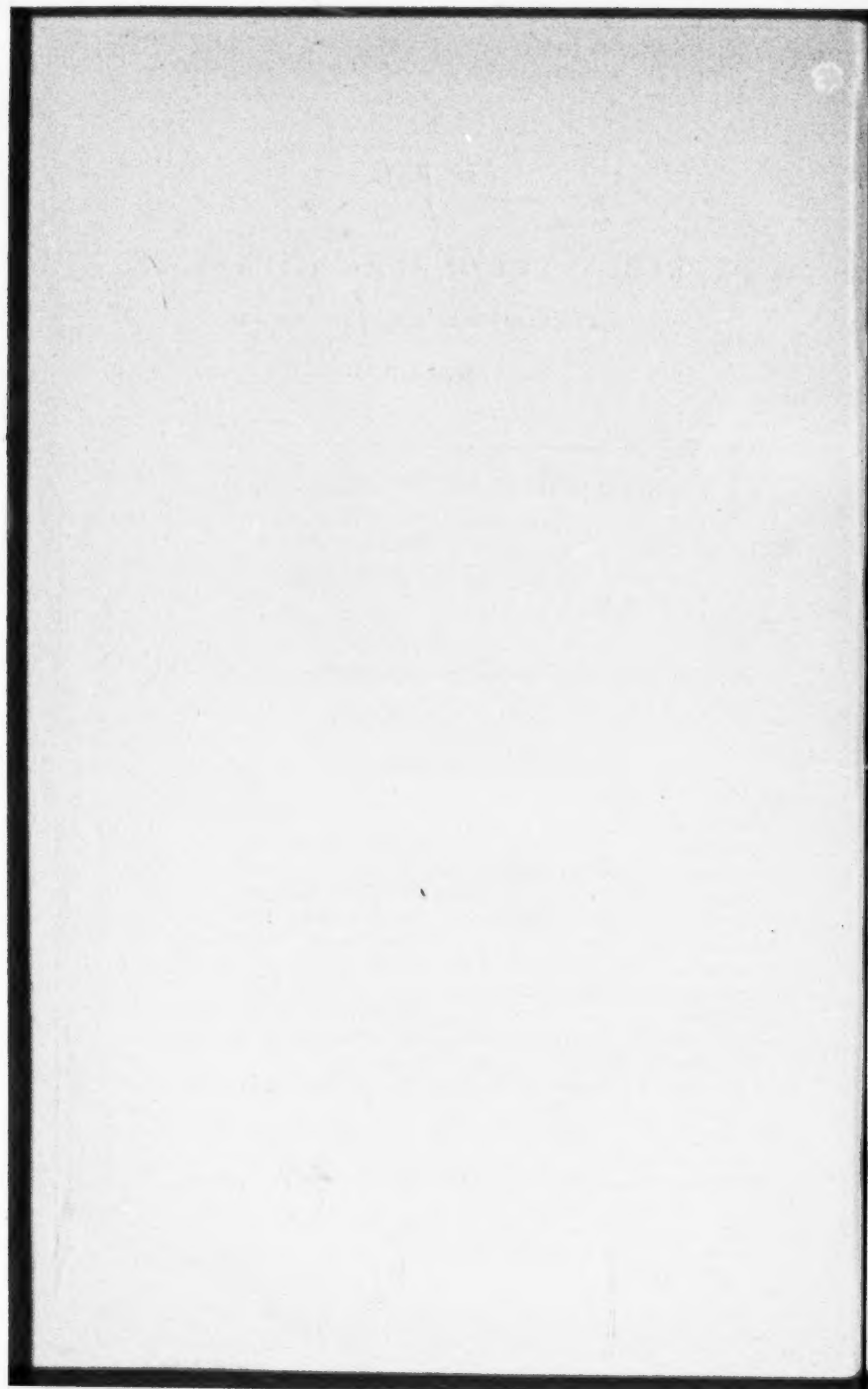
vs.

THE UNITED STATES.

APPEAL FROM THE COURT OF CLAIMS.

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1 United States Court of Claims.

WILLIAM WHEELER HUBBELL } No. 16261. Filed June
 against } 11th, 1888.—J. R.
 THE UNITED STATES. }

Petition.

To the honorable the judges of the Court of Claims :

I. The petition of William Wheeler Hubbell respectfully represents that—

Now, and since the year 1880, he has been a resident of Appomattox county, State of Virginia; prior to that, from 1875, a resident of Washington, D. C., and previous to 1875, a resident of Philadelphia, Pennsylvania.

II. That your petitioner is a citizen of the United States, born on March 4th, 1821, at Philadelphia, Pennsylvania.

Your petitioner is the first and original inventor of an "improvement in cartridges," for which letters patent of the United States were granted to him in due form of law, and according to law, dated and issued the 18th day of February, A. D. 1879, vesting in him the exclusive right to make, vend, and use the same for seventeen years from the date thereof.

III. That the said invention is of the kind known as the centre-fire or centre-primed, enclosed or fire-tight metallic cartridge for firearms, for infantry and for cavalry service, as distinguished from rim-fire.

That your petitioner was the first and original inventor of the centre-primed, enclosed cartridge, essentially the same in principle of priming in a small chamber in the bottom, and combustion of charge, as early as February 8th, 1842, the first in the world, with a machine breech-loading gun to use the same, fired by a pointed drill or striker; the original specification of which, duly proved and tested, he filed in the Patent Office, caveat archives, on April 13th, 1865; on which same day he also filed his application for letters patent of the United States for his invention of the cartridge, as improved and constructed with a metallic case, adapted to infantry and cavalry firearms service.

2 IV. The original invention of the main principles of his cartridge was constructed in 1841 and 1842 with paper-rolled case, and some papier-maché, and some metallic bottom, stamped up with rim, forming a cup-anvil chamber, when he was experimenting with his invention in breech-loading firearms in 1841 and 1842. The paper vented itself freely, and in metal the common-size vents were tried, and made larger.

Your petitioner notified the ordnance departments of the navy and army that he had made the said invention in cartridges, and breech-loading firearms, firing by cartridges, instead of a touch-hole, or percussion cap and tube, as early as January 30th, 1843, and

in 1845, 1846, 1847, and petitioned Congress in December, 1845, to make provision for their introduction and adoption into the public service. But at that early day, and until 1864, the United States ordnance office resisted all efforts to change the system of infantry muzzle-loading arms into breech-loading with primed cartridges, and only tried a few carbines with rim-fire cartridges in 1864.

V. In 1864 the new chief of ordnance, General Dyer, requested your petitioner to develop his invention of cartridges and breech-loading firearms for infantry in place of the Springfield muzzle-loading musket, of which inventions your petitioner had informed him, and was with said General Dyer at Fortress Monroe in 1858, and 1859, making trials of concussion fuses and shells, where he was then in command.

Your petitioner prepared his cartridges and applied for his patent, and his firearms, several in number and plan, in compliance with this request, and said chief of ordnance himself fired, and expressed his preference for the centre-fire cartridge, and the model of gun patented subsequently, in 1867, to your petitioner—a modification of his patent gun of 1844, adapted to fire his said cartridge for infantry service.

Your petitioner was the first and original inventor and patentee of the swinging breech-block gun, secured by the hammer, patented to him in 1844, reissued in 1851, of which principle the present Springfield rifle of defendant is a modification, using your petitioner's patent cartridge, and principle of firing by an indenting, pointed, central striker compressing the base of the cartridge and the fulminate by central indentation of a fire-tight base.

VI. In or about the month of June, A. D. 1865, your petitioner informed, in person, Col. Stephen V. Benet, at the Frankford arsenal, the place where the Government made ammunition, and of which he was then in charge, of this centre-primed cartridge invention of your petitioner, for which he had applied for a patent, claiming for it its superiority over the rim-primed cartridges then being made there for carbines. No centre-fire, fire-tight, primed cartridges, with free escapement ventage, had been made there,

3 and there were no guns there adapted to their use. The "Maynard" and "Burnside" centre-fire tried there were not primed, nor fire-tight, and the "Morse" was not fire-tight, free escapement, nor with head or bottom solid to the case; it was only a cap on the tige in an india-rubber wad, was fired by a plunger and percussion, and not a pointed, indenting striker, by compression; and no order was given at Washington with leave to try centre-primed cartridges until October, 1866, at the Frankford arsenal.

Claimant's invention was not only the first in time, but, as perfected, was fire-tight, and fired by a pointed, indenting striker; was constructed with a head and cylinder united by a flange, made solid, and combined with a separately made primer, with a fulminate chamber circular, to fit and hold by overlap of metal, with large or free escapement ventage to the base of the charge; some with one and some with two or more vents, leaving the metal solid immediately opposite the centre, or the bar, opposite the line of motion of

the striker ; comprised all modifications, including that now patented, and employed since the issue of the patent to claimant, by the defendant, and with the same free escapement ventage from the priming to the base of the charge of powder, by the same construction of anvil plate, dual vents, and bar, or metal left solid immediately opposite the centre, and solid flanged head and case, to hold secure the primer and charge under the indenting blow of the striker and of the explosion, and to allow of a safe extraction of the shell after the firing. And claimant applied for such patent April 13th, 1865.

Your petitioner prosecuted said original application of April 13th, 1865, with all the modifications of his invention, through a second examination and through an appeal, without avail. He failed to make the examiners comprehend the principle of the same ; and he continuously and repeatedly, to the utmost of his ability, in extreme ill health and resultant poverty, renewed his said application for a patent in 1872, 1874, 1878, and frequently, under the rules and regulations of the Patent Office, allowing only a limited number of examinations, only two, under each fee of \$15 paid into the Treasury, and by special order of the Commissioner of Patents, on due cause shown ; in every file exhausting his limited right of examination under the rules, until new and more experienced examiners finally, in 1878, then for the first time understood the invention, and the application was finally allowed, after due examination, and the patent forthwith issued to this petitioner, he having admitted of no delay in paying the final fee of \$20, after the allowance of the application.

And your petitioner shows that he used all practicable diligence, and incurred great expense, as provided by law, in his numerous renewals of his application, in procuring his said patent, amounting in all to \$130, in fees alone, paid into the Patent Office or Treasury.

4 And your petitioner avers unto your honors that from the year 1857, in April, when he, in Washington, contracted the arseniated poison called the "National Hotel disease," until 1880, he not only suffered ill health, and continual sickness and consequent poverty, but the United States also, in suit No. 2124, used its whole force, and money resources freely, to defeat him in said suit, to his great expense and loss, and consumption of his time, until December, 1871, when it was settled. That in the following month, at once, he renewed his application for the patent for his cartridge, and exhausted his right of examination, making a division on an allowed portion—on a division as to the front or ball end of the cartridge, separately patentable, "without prejudice" as to the right to a separate patent for the priming principle. And again forthwith, in 1872, he renewed his application for the priming principle involved in this suit, on which he also exhausted his right of examination ; and for good cause the Commissioner of Patents ordered a renewal of the examination, which was also exhausted, without the examiners comprehending the invention. In 1878 he again renewed it, in an application for a reissue of the division patent of

1872 allowed, which was disallowed, because this patent did not describe this part of the original application as it was divided and allowed. He then renewed the application the fifth time on a new fee, whereupon a new set of examiners, who had fully educated themselves, by compiling a history of the cartridges of all countries, as patented, comprehended and understood the invention of your petitioner, and allowed the patent therefor. And your petitioner never abandoned his invention of a fire-tight, central-fire, and primed, metallic cartridge, with free escapement ventage to the base of the charge of powder, nor any of the modified constructions described in his original application of 1865, to carry the principle into effect, nor any of his applications of renewal in support or continuance of the said original application; but he used all possible diligence to obtain his patent therefor and to introduce his invention of firearms and cartridges into use for infantry service, as requested and permitted.

Prior to the issue of the patent, and pending the application therefor, your petitioner also filed a specimen of his invention with the chief of ordnance of the United States, by delivery to General Stephen V. Benet, in charge at the ordnance office, of which a record remains in the ordnance official archives, to wit: on or about the 31st May, 1872, recorded as your petitioner's invention "of a metallic cartridge;" also a "specimen bullet." And on July 13th, 1872, your petitioner applied to the chief of ordnance, General Dyer, to have this claimant's "improved ammunition" tested, and on July 15th, 1872, an order was issued by S. V. Benet, major of ordnance, to the commanding officer of the Frankford arsenal, to "test Mr. Hubbell's cartridge, manufacturing a number sufficient for the purpose."

5 There never was any pretence that the cartridge was not your petitioner's invention; on the contrary, it was received, recorded, and officially declared to be your petitioner's "invention of a metallic cartridge," as well as of a "specimen bullet," left for file.

VII. It was an important part of the practical application of said invention, as perfected by your petitioner, that when the enclosing case was made of metal instead of paper, that the anvil plate to enclose the fulminate should also be made of the same or kindred metal, either copper or copper alloy, avoiding tin or other decomposable metal or material which might develop a voltaic action and destroy the priming and charge; all of which advantages were contained in the original invention, and application, and specimens filed of your petitioner. The invention of your petitioner, as patented and filed, and as originally applied for on April 13th, 1865, and prior to that time, was in all respects a perfected, practical invention, and the patent as issued is a division of the original application of 1865.

VIII. Pending your petitioner's application, the officers of the United States experimented on various devices, with tin and other metals, for cartridges of cheaper and different construction and operation, in pursuance of orders received October 5th, 1866; all of which finally failed and were abandoned by the defendant; and

after the issue of your petitioner's patent, his invention, constructed, combined, and operating substantially as claimed in his patent, was permanently and extensively adopted in the public service of the United States, and issued to the militia of the several States, in pursuance of acts of Congress relating to breech-loading firearms and cartridges or ammunition; the said cartridges of your petitioner's invention and patent being made at the Frankford arsenal, of and by the duly authorized officers and employees of the United States; that called the reloading cartridge not until about October, A. D. 1879, and the "cup" cartridge, with solid flange case, shortly before the latter.

IX. Your petitioner was both at Fortress Monroe, with General Dyer, in 1858 and 1859, in relation to your petitioner's inventions being tried, especially concussion fuses, before he became chief of ordnance, and was also at the Frankford arsenal in 1858 and 1859, and informed Mr. Perkins, the foreman, about his centre-fire cartridge of 1842, as improved, the permits for your petitioner being then issued by Colonel Craig, then the chief of ordnance; and he made fuses also at these times at said arsenal, and fired them at Fortress Monroe.

Your petitioner also instructed Captain Prince, in charge of experiments at the Frankford arsenal, in all the details of making his cartridge, in July, 1872, in pursuance of orders as to claimant's "ammunition" issued by said General Dyer, as chief of
6 ordnance, and Stephen B. Benet, major of ordnance, all being the proper and duly authorized officers. The chief of ordnance, General Dyer, had previously, in person, at his office in Winder's building, been more fully informed of claimant's invention of centre-fire cartridges, and his firearms to use the same—four in number, the most complete gun being that patented in May, 1867, by claimant, and fired frequently by the said chief of ordnance in person, in the adjacent ground near his office, in 1866 and 1867.

X. When the said letters patent were granted and issued for the cartridge in 1879, your petitioner exhibited the same and gave information thereof to the chief of ordnance of the United States, and fixed the just compensation or royalty rate at two dollars per thousand for each and every thousand of the ammunition or cartridges that might be made or used during the term of said patent containing your petitioner's patented invention.

XI. And the duly authorized officers of the United States, well knowing of your petitioner's said patent, and of said royalty charge, which was not disputed as to justness of amount, your petitioner having assented to a reduction from two and a half, which he first asked, to two dollars per thousand, at the suggestion or request of Major S. C. Lyford, of the ordnance office, did enter largely into the manufacture of cartridges containing the construction, combination, and principle of operation of your petitioner's patented invention, and manufactured and used his said patent cartridge to the number of many millions, and still continue to manufacture and use the said patented invention of your petitioner called the "reloading

cartridge," and others, in accordance with said patent; whereby the Government of the United States, by the duly authorized and proper officers thereof, promised and agreed to pay to your petitioner a just compensation for the said manufacture and use of his said patented invention of cartridge, to wit: the sum of two dollars per thousand; and on due application to the War Department, suggested to your petitioner to make petition to the court, alleging that such was now the practice in relation to patented inventions used by the Government.

And your petitioner further avers, that the duly authorized officers and employees of the United States, under all the aforesaid circumstances, well knowing that the said invention of a centre-fire cartridge, and as improved, was your petitioner's, and that he had been endeavoring to secure his rights by grant of letters patent, and that he finally had obtained letters patent, dated and issued February 18th, 1879, vesting in him the exclusive right to make, use, and vend to others to use, the invention patented for seventeen years, thereafter, and within the time of said grant, did extensively manufacture, on behalf of the United States, the complete,
7 perfected invention of your petitioner patented by him as aforesaid, whereby the Government of the United States did promise and agree to pay to your petitioner a just compensation therefor, as provided by the Constitution and the acts of Congress in pursuance thereof.

And your petitioner further avers, that the duly authorized officers and employees of the United States, after the grant of said patent by the duly authorized officers of the United States, did extensively manufacture and use the said patent-cartridge invention for and on behalf of the United States, whereby the defendant did promise and agree to pay to your petitioner a just compensation for the use of his patent, or therefor, in compliance with the Constitution and the laws in pursuance thereof.

The said manufacture under your petitioner's patent was with the assent of your petitioner for the just compensation stated to be paid by the United States.

XII. Your petitioner has pending a suit for compensation up to March 31st, 1883, case No. 13793, in the Court of Claims, and has never sued any officer nor brought any other suit than that before this present petition. In the said suit the court fixed five per centum of the cost of the finished completed cartridges as a proper compensation, under petitioner's patent, and this rate he accepted and adheres to in the present petition, which is at the rate of \$1.50 per thousand cartridges, costing \$30 a thousand, as officially reported to the court, and \$1.30 per thousand for those costing \$26 per thousand.

XIII. Wherefore, your petitioner charges and claims that the United States on this implied contract is indebted to your petitioner at the rate of one dollar and fifty cents per thousand for each and every thousand of his said patented invention made or used by the duly authorized officers and employees of the United States for the public service, as prescribed by law, since the thirty-first day of

March, eighteen hundred and eighty-three (March 31st, 1883), and up to the last day of the last month preceding the filing of this petition, to wit, May 31st, 1888.

XIV. Your petitioner shows, that the defendant, between April 1st, 1883, and October 31st, 1884, manufactured 9,342,275 primers for reloading, containing the circular fulminate carrier surmounted by the circular anvil plate, with dual vents and central bar to the anvil plate, for use in reloading the solid flange cases in the bottom thereof, and with free escapement ventage, substantially in accordance with claimant's said patent.

Also, that the defendant, between April 1st, 1883, and October 31, 1884, manufactured 12,696,936 "reloading" cartridges, containing the circular fulminate carrier surmounted by the circular anvil plate, with dual vents and central bar to the anvil plate, in the solid flange cases in the bottom thereof, and with free escape-
8 ment ventage from the inner or fulminate chamber to the

base of the powder charge in the outer chamber, substantially in accordance with claimant's said patent.

Also, defendant made from April 1, 1883, to October 31st, 1884, the number of 64,560 "cup" anvil cartridges, so called from a little rim around the edge of the plate, containing the modification stated in said patent, making in all 22,103,771 cartridges.

That since October 31, 1884, the defendant has made many millions of claimant's patented cartridges, estimated at about one million per month. Your petitioner alleges that the defendant has made about 50,000,000 more of his patent cartridges since the 31st of October, 1884.

XV. Your petitioner prays for an account of the full and entire number of the said cartridges made or used by the defendant, its officers or employees in its service, or for distribution to the States, since the said March 31, 1883, to be separately stated when ordered, and for leave to make the same a part of this petition when precisely ascertained, by amendment.

XVI. Your petitioner claims a just compensation for the making or use by the defendant, its authorized officers or employees, for its service, of his said patented invention of cartridge, to wit: He claims the sum of one hundred and ten thousand dollars due to him on this behalf by the United States from the 31st March, 1883, up to May 31st, 1888.

And he prays for judgment for all making or use of his said patented invention from the said 31st March, 1883, to said 31st May, 1888, by the defendant, its authorized officers or employees in its service, or on its behalf, in pursuance of law, in the sum of one hundred and ten thousand dollars, with leave to amend his petition in this behalf when the precise numbers have been duly reported by the proper departments of the United States.

XVII. And your petitioner has always borne true and faithful allegiance to the Government of the United States, and he has not in any way voluntarily aided, abetted, or given encouragement to rebellion against the said Government.

WM. WHEELER HUBBELL.

COUNTY OF CAMPBELL, } ss:
 State of Virginia, }

I, Thomas L. Arrington, a notary public in and for the county and State aforesaid, duly authorized to administer oaths, do certify, that William Wheeler Hubbell, personally known to me, appeared before me this day, and being duly sworn, deposes and says, that no assignment or transfer of his aforesaid claim, or any part thereof or any interest therein, has been made, and that he, said claimant, is justly entitled to the amount therein claimed from the United States, after allowing all just credits and offsets, and that he believes the facts as stated in said petition are true.

WM. WHEELER HUBBELL.

Sworn and subscribed to before me this the fifth day of June, A. D. 1888.

[SEAL.]

THO. L. ARRINGTON, N. P.

(Endorsed:) Court of Claims. No. 16261. William Wheeler Hubbell against The United States. Manuscript petition (cartridge case). The clerk will please file this petition. Wm. Wheeler Hubbell, claimant, Concord Depot P. O., Campbell Co., Virginia. Filed June 11th, 1888. J. R.

Court of Claims.

WILLIAM WHEELER HUBBELL }
against } No. 16261.
 THE UNITED STATES. }

Amendment of Petition.

The Secretary of War having made answer to the request of the court in this case as to the numbers of "reloading cartridges" made, the petitioner, in accordance therewith, and the reservation in his original petition on this behalf, amends his petition as follows, and avers that the duly authorized officers and employees of the United States have, from the 31st of March, 1883, to the 31st of May, 1888, made of said "reloading cartridges" in accordance with your petitioner's said patent, and embracing the invention thereof, the number of 39,224,315 completed cartridges. And also between said dates have made primers for reloading and reconstructing the combination and organization for which said patent is granted and embracing the invention thereof the number of 65,841,675, constituting that number of cartridges, making a total number of 105,065,990 cartridges of your petitioner's said patent of February 18, 1879, and a royalty value of one hundred and fifty-seven thousand five hundred and ninety-eight dollars and ninety-eight cents, (\$157,598.98,) for which sum your petitioner prays judgment in this suit.

WM. WHEELER HUBBELL.

10 STATE OF VIRGINIA, } ss:
Campbell County, }

Sworn to and subscribed by Wm. W. Hubbell, before me, a notary public, undersigned, this 12th day of Sept., A. D. 1888.

THO. L. ARRINGTON, N. P.

Claimant's counsel: J. W. Douglass, C. S. Whitman, Washington, D. C.

Allowed:

WM. A. RICHARDSON, Ch. Justice.

Filed Sept. 15, 1888.

J. R.



IN THE COURT OF CLAIMS OF THE UNITED STATES.

Thos Wheeler Hubbell

December Term, A. D. 1888

vs.

No. 16261

THE UNITED STATES.

And now comes the ATTORNEY GENERAL, on behalf of the United States, and answering the petition of the claimant herein, denies each and every allegation therein contained; and asks judgment that the petition be dismissed.

And as to so much of the said petition as avers that the said claimant *has* at all times borne true faith and allegiance to the Government of the United States, and has not in any way voluntarily aided, abetted, or given encouragement to rebellion against the said Government, the ATTORNEY GENERAL, in pursuance of the statute in such case provided, denies the said allegations, and asks judgment accordingly.

Robert A. Howard

Assistant Attorney General.

No. _____

vs.

THE UNITED STATES.

GENERAL TRAVERSE.

Assistant Attorney General.

WILLIAM WHEELER HUBBELL v. THE UNITED STATES.

FINDINGS OF FACT.

This case having been heard by the Court of Claims, the court, upon the evidence, find the facts to be as follows:

The facts in this case are the facts already found in case No. 13793 between the same parties as to the same subject-matter, except as to the time since the beginning of the other action, during which time, to wit, from the beginning of the other action to the beginning of this action, the Government manufactured cartridges of the same form and kind as those described in these findings, known as the "reloading" cartridge, in which said case No. 13793 the following proceedings were had and the following facts were found, which facts are now found herein and are hereto annexed, as follows, to and including Finding VIII:

I.

April 13, 1865, the claimant filed in the caveat archives of the Patent Office of the United States a specification and drawings alleged by him to describe "a gun to load and fire with great rapidity and effect." This caveat was prepared the 8th day of February, 1842. The gun described in the caveat was a breech-loading revolving gun, requiring the use of cartridges. The claim was for the invention of the gun, and also "the cartridge as set forth, and firing it by means of a drill." In this cartridge a paper cylinder was employed in which the powder was inclosed with the ball above or before it; in the back or lower part of the cylinder was a chamber coated with varnish, filled with fulminate, and having an end covering to it; the cartridge was to be fired by a drill. No method of communication from the fulminate to the powder was provided, nor any mention made of an anvil.

II.

The same day, April 13, 1865, claimant also filed in the United States Patent Office an application for letters patent upon what he described as a new and useful improvement in primed cartridges.

May 15, 1865, the letters patent were refused on the ground that the claim had been anticipated.

The application was then amended, and again refused, August 10, 1865, for lack of novelty.

The claimant appealed from this decision to the board of appeal or examiner in chief, and on November 17, 1865, two examiners in chief affirmed the decision, refusing the application.

The important parts of the invention as described in the specifications and the drawings annexed to them, filed April 13, 1865, with application, are as follows:

The invention is called a "new and useful improvement in primed cartridges."

The nature of the invention consists in taking the ordinary copper-flanged primed-cartridge case, which has a projecting flange on the rear and immediately outside of a level rear base or plate and outside of a cylindrical body, such flange connecting the cylindrical body with such rear base plate, and adapted to arms having a flange recess at the rear of the charging chamber. And I dispense with the fulminate in such rim, and I compress and make thinner the center of the rear base plate to about half the surrounding thickness, and for a diameter or size of about a quarter of an inch, and inside of the shell or plate, forming thereby a circular recess or chamber in the base or plate inside to hold fulminate and to present a thin striking face to a striker located in the rear of the shell or cartridge, and I insert inside of this shell, with its rim or edge extending into the rim of the shell, and firmly secured by such rim, a copper plate or anvil, perforated with one or more small vent holes in the anvil part opposite such thin or reduced center to inclose the fulminate, receive the blow of the striker as an anvil as it strikes onto the thin or reduced central part of the rear plate or base of the shell, and drives it forward where struck with the fulminate against the curved base of the center concave of the plate which surrounds a central hole or vent in it to form a base of resistance to explode it against, and to admit the fire directly forward through the center of the gunpowder of the cartridge. This is the best form of applying the invention, though two or more small holes to vent may be used, with the metal of the plate solid immediately opposite the center.

The advantages of this cartridge were described by the claimant in the said specifications, as follows:

The flange being filled up solid prevents it from stripping in extracting the shell. The fulminate being in the center (and not within the outer flange), makes it safer from accidental explosion. The concave plate secured by the outer rim, and is held by the groove in the gun, makes a firm base of resistance to the action of the striker to explode the fulminate. The central issue of the fire forward through the gunpowder ignites it uniformly and most quickly.

The applicant's claim was thus made:

What I claim as my invention is: Dispensing with the fulminate in the hollow rim of the ordinary cartridge case, having its rim projecting around the rear flat base and beyond the cylindrical body of the shell, and then reducing the thickness of this rear plate or base in the center inside, and inclosing the fulminate in and opposite this thinned center or recess by means of a perforated plate or anvil, held securely by its rim entering the hollow flange outside of the cylinder of the shell, to convert it into a center primed cartridge adapted to arms with a flange recess around the rear end of the charging chamber, such as those in which the shell was before used, or others similar, or adapting the striker to it, substantially as described.

In his appeal from the decision of the primary examiner the claimant alleged the following essential features which must necessarily all exist to develop the function of a proper explosion of the cartridge, namely:

1. A thinned central rear sufficiently and only large enough to present an annular striking face around the center hole of the anvil plate and opposite the central face of the anvil plate.

2. An anvil plate held by the surrounding projecting flange and flat with the rear plate up to the edge of the thinned part of such plate, and with a curved concave opposite the thinned part, and only opposite the thinned part, surrounding a central vent hole extending forward through the plate.

The construction of the anvil plate is peculiar and the construction of the thinned rear base is peculiar; both may have been separately known before, but they were never proportioned to each other and brought together to act in unison for the common purpose of producing a quick and certain ignition of cartridge and making it safe to carry; by combining an easy yielding rear face with a solid resisting anvil face properly presented and supported, and a small amount of fulminate with large ventage so as not to blow out or displace the anvil plate, and keep the base solid for easy extraction of the shell.

The claimant, upon January 23, 1872, filed in the United States Patent Office an application for letters patent upon improved breech-loading metallic cartridges. After refusal and amendment, letters patent were issued to him for the invention claimed by him in the following form:

I claim as my invention the within-described improved fixed ammunition for breech-loading infantry arms, consisting of an enlarged metallic case containing a charge of powder, an elongated, solid, and flat-based paper carrier fitting closely within said case, and carrying a smooth, solid, elongated, rearwardly tapering, flat-based, subcaliber leaden bullet, held and partially inclosed by the front end of the said carrier.

On this application a patent was issued for a subcaliber bullet with bullet paper carrier.

The claimant filed, April 25, 1872, in the United States Patent Office an application for a patent for "an improvement in the construction of primed metallic ammunition for breech-loading firearms. This application was amended and refused. The specification as amended was as follows:

I, ———, have invented an improvement in the construction of primed metallic ammunition for breech-loading firearms, of which the following is a specification:

My invention relates to the construction of the base or rear end of the cartridge or metallic case, immediately adjacent to the rear of the powder chamber, to prevent the fulminate and powder, either or both, from decomposition by galvanic action or sweating, and to prevent the paper disk from burning, and prevent the metallic case at the flange from bursting; and to construct the cartridges with uniform similarity, and cheaper than heretofore, by means of a circular centrally-perforated paper disk, carrying the fulminate in its central perforation and secured between a circular metal plate similar in galvanic nature to the metal of the case, with an anvil or bridge piece in this circular metal plate over the fulminate, and one or two holes punched through it at one or both sides of the anvil face to admit the fire to the powder, and secured firm down on the paper disk by the pinched-in sides of the case over the middle plate to insure resistance to the fulminate.

Referring to drawings annexed to it, the specification proceeds to describe a metal case, to contain the powder charge, and the bullet or shot, or only the powder if desired. A circular paper disk about one-tenth of an inch thick fits tightly inside of the metal case against the metal base of the case, this paper disk to be perforated entirely through at its center, forming a chamber of uniform diameter open at both sides alike, and of about one-eighth of an inch in diameter. Into this chamber is put the fulminate when damp, coated on both sides with a solution of shellac, and then placed into the case. Over this is placed a circular plate of the same kind of metal as the case or similar in galvanic nature, so as to prevent galvanic action or decomposition. Two holes through which the fire from the fulminate reaches the powder are punched through this plate, leaving an anvil piece over the fulminate. The specification then proceeds:

Owing to this construction of a paper disk, between a metal plate and the base of the case, a much thinner body of paper, and a shorter metal case, suffices to secure, preserve, and explode the fulminate than is used when paper alone is employed in the metal base or case. There is also greater certainty of exploding the fulminate, and the paper is pressed more mechanically and tightly at the edges against the case, to exclude the gas and fire, and prevent the paper from burning and the shell case from bursting, while galvanic action and decomposition are also prevented; and sweating does not destroy the fulminate. The paper disk being perforated clear through, enables either side to be put next to the metal base and makes equally sure fire. Paper is the only material that will answer for this disk.

I am aware that a body of paper with a concave recess in the rear, containing fulminate, and sufficiently thick to enable the paper in a measure to resist the blow to explode the fulminate, has been suggested before this invention of mine, but it

requires a longer case than mine, and is not so certain to explode; and a paper disk alone so thin as mine, and taking up so little space, will not give sufficient resistance, nor will any paper disk when perforated through like mine, so as to apply either side next to the base, explode the fulminate without the metal plate or anvil. I am also aware that an anvil plate over a combustible-primed wad has also been suggested, but this does not exclude the gas from beneath the plate at the edges or weak parts of the case, which my invention does accomplish.

But what I claim is—

The construction of an improved breech-loading metallic-primed cartridge case, consisting of circular metallic anvil perforated and secured by a bite of the case of the same metal, immediately in front of a circular paper disk centrally perforated through and carrying the fulminate in the central perforation, and tightly inclosed against the sides of the case at the flange, and between the metallic base and anvil plate, exclusively of the same metal, to avoid sweating, bursting, galvanic action, and to keep and present the fulminate and charge in the most serviceable manner, as described.

IV.

Another application, filed December 28, 1878, resulted in the issue to the claimant of letters patent No. 212313, for an alleged new and useful improvement in cartridges. These letters were issued February 18, 1879. The right and title to them remains in the claimant. The amended specification upon which the letters were issued contains the following description of the invention:

United States Patent Office. William W. Hubbell, of Washington, District of Columbia. Improvement in cartridges. Specification forming part of letters patent No. 212313, dated February 18, 1879. Application filed December 28, 1878.

To all whom it may concern:

Be it known that I, William Wheeler Hubbell, of Washington and District of Columbia, have invented an improved metallic cartridge, and I do hereby declare that the following is a full, clear, and exact description thereof:

My invention relates to the peculiar construction of a circular metallic perforated plate, with the circular fulminate carrier and solid fire-tight metallic case and head in one piece, as will be hereinafter more fully set forth and described.

Referring to drawings annexed to it the specifications proceed to describe the cartridge substantially as follows:

A cylindrical metallic cartridge case or shell, with solid rear end in one piece therewith, both fire tight; open only at the front end; to be primed and loaded at this front opening. Above and upon this solid rear end is placed a circular disk of paper, or any suitable substance, perforated through the center for the reception of the fulminate in this perforation or chamber. Above and upon this disk is placed a circular metallic plate closely fitting inside the case or shell; this plate is held in place by contracting or pinching the case or shell, which forces the plate down upon the disk and makes a tight joint around the edge of the plate. The plate has two perforations, one on each side of a center line drawn through its axis, sufficient space being left between the perforations to form the bar, which is of a breadth nearly equal to the perforation in the paper disk immediately over which it rests; above this metal plate is the powder chamber, and above that the bullet. The specification further sets forth that the paper disk may be dispensed with by recessing or forming the fulminate chamber in the metal of the circular plate with a central anvil bar over the recess and a perforation on each side of the bar. The specification thus concludes:

The central anvil affords a firm resistance to a central striker acting on the center of the base, and compressing the fulminate to ignite it with certainty. The two side

vents diffuse the fire into the base of the charge of powder, and its instant explosion presses back the circular anvil plate, and prevents it from being blown out in the barrel, the charge being consumed from the base forward without reaction of the fire or waste of the powder.

The distinguishing feature of my invention is the organized construction to carry into complete effect the expressed principles of operation of the fulminate of mercury or detonating powder and the powder charge. In this organization the fulminate, although the superior explosive force, is contracted into a diminished or small central chamber and fills it. The flange and head of the metallic case are solid, all in one piece. This chamber at its sides or outer extreme edges communicates directly and exclusively with the powder charge, so that the explosive force of the fulminate is not allowed to expand under a larger area of the anvil plate and blow it out, but is compelled to diffuse its explosive force, not in a central stream, but in a diffused body into the base of the powder charge. To effect this the central anvil piece has no central aperture, is as wide as the fulminate-filled chamber, and the perforations are at the extreme outer sides of this fulminate for two purposes. One is to diffuse the fire from this center most thoroughly. The other is to have an unperforated anvil over and against the fulminate, as it rests solid in its chamber, to receive the central blow of a striker and obtain complete resistance by the anvil bar, and yet have free escapement for the explosive force at once from beneath the anvil plate without any chamber or space for it to expand into under the plate. This insures a certain ignition, security of the anvil plate to keep its position, and a complete combustion of the powder charge from the base forward, as it impels the bullet out of the gun.

Having thus described my invention, what I claim as new and desire to secure by letters patent, is—

In the bottom of a solid metallic flange cartridge case or shell, the combination of a circular base inclosing a central chamber of fulminate and an anvil over the fulminate, provided with two or more openings, whose inner edges nearly coincide with the edges of the central chamber of fulminate in the base of the cartridge, substantially as described.

V.

The officers of the United States Army began in 1864 experiments for the manufacture of center-fire cartridges which led up to the "cup-anvil" cartridge adopted in 1868 and the reloading cartridge. Prior to 1864 metallic, so-called, "rim-fire" cartridges were used; in these cartridges the fulminate was contained in a hollow flange or rim around the base of the cartridge, and it was exploded by a blow from the hammer of the gun upon the exterior edge of this flange or rim. Among other patterns there were made and fired by said officers the following different kinds of center-fire cartridges:

In December, 1864, some ten or fifteen cartridges thus described: Interior, center-primed cartridges; priming (or fulminate) being held in place against the base or rear of the shell by a circular metal disk compressed by the walls of the shell; in the disk were two holes at the extremities of a diameter of the fulminate through which fire from the fulminate was communicated to the black-powder chamber of the shell; the entire area of the holes opened into the fulminate chamber, and the portion of the metal disk between the holes served as an anvil to resist the blow of the hammer or firing pin; between the hammer and the anvil was placed the fulminate.

The fulminate in this cartridge was carried in an exterior bulb or chamber in the rear of the center of the base of the cartridge; this method of loading the fulminate was abandoned.

About the spring of 1865 the said officers manufactured and fired cartridges of the following description:

A center-primed cartridge, the priming of fulminate in a circular depression in the center of the base of the shell held in place by a cir-

cular piece of metal pressed down over it; fire to the powder charge communicated through two holes at the extremities of a diameter of the depression or pocket in the base of the shell, the entire area of these holes opening into the pocket and the portion of the metal between the holes serving as an anvil to resist the blow of the firing pin or hammer.

The Government continued the use of a center fulminate chamber, having above it a disk with central anvil and two vents to the black-powder chamber, until the development, in 1868, of the cup-anvil cartridge, in which a cup was substituted for a single disk or for the combination of two disks. The cup is an improvement upon the disk or disks, in that a disk from its form is apt to be turned or misplaced in insertion, or loosened by blows from the striker, and must be fastened by crimping the walls of the shell near the flange where the walls are thickest; while a cup has from its form greater rigidity as an anvil, its walls prevent it from turning while being inserted in the shell, and admit of its being crimped in place where the walls are thinner. Being in effect a hollow cylinder it occupies less powder space in the shell for equal depth of cup thickness of disk.

VI.

The "cup-anvil" cartridge is one of those alleged to be covered by claimant's patent. It is a center-primed cartridge, metallic case or shell, with a rim around the rear or closed end of the cartridge. The priming or fulminate is contained in a circular pocket in the exterior of the base of a metal cup; that is, into a cartridge shell, and resting upon its base is put a metallic cup with its mouth toward the black-powder chamber; the bottom of this cup projects upward from the circumference toward the center, and the cup is forced down upon the solid base of the cartridge case or shell, and is held there firmly by crimping the walls of the case or shell over the edge of the cup at its open end. A circular pocket appears therefore in the exterior of the base of this cup and in this pocket, and between the cup and the closed end of the cartridge case or shell is placed the priming or fulminate. Fire is communicated from the fulminate to the black powder through two holes in the bottom of the cup at the extremities of a diameter of the said depression or pocket. The whole area of the apertures is over the fulminate chamber free to receive the flame, and their inner edges do not nearly coincide with the outer edge of the fulminate chamber. The portion of the top of the pocket or bottom of the cup between the two holes serves as the anvil to resist the blow of the hammer or firing pin.

This cartridge was adopted by the Government in 1868, and has since been continuously manufactured and used by it.

The "reloading" cartridge is another of those alleged to be covered by claimant's patent. This cartridge is a hollow metallic shell, rimmed around the base with a pocket in the exterior of the center of the base; through the center of the top of this pocket, supposing the cartridge to be stood upon its base or closed end, is pierced a single aperture or hole to carry the fulminate flame to the black-powder chamber. This cartridge contains only the black powder and the bullet. Any one of several different kinds of primers may be used in it; the one used by the United

States and alleged to infringe claimant's rights is a circular metallic cup into which is put the fulminate; above this is fastened a disk or cover having a groove on its upper side, being the diameter of the circle; at each end of this groove a small piece or notch is cut out of it; through the holes thus formed the flame from the fulminate escapes; if this primer is placed in the chamber of the reloading cartridge, with the closed end of the cup outward and the grooved end against the top of the chamber, the flame from the fulminate when exploded would pass through these holes or notches, thence along the groove to the central aperture in the cartridge case or shell, thence to the black-powder chamber through this single aperture. The entire area of each of the holes or notches in the disk is over the fulminate chamber, and the portion of the disk between the holes is the anvil.

VII.

The claimant, in July, 1872, notified the Chief of Ordnance of the United States of his letters patent, issued in April of that year, and asked that the cartridge therein described be tested. March 22, 1879, claimant notified the Secretary of War of his patent, granted February 18, 1879, and asked allowance for royalty on future manufactures of the cartridge thus protected.

From March 1, 1879, to March 31, 1883, the United States manufactured 14,714,082 cup-anvil cartridges, and after February 18, 1879, used 2,700,000 theretofore made.

From February, 1879, to March 31, 1883, the United States manufactured 3,866,352 reloading cartridges, and 9,373,700 of the primers described in Finding VI were manufactured from 1883.

VIII.

The cost of manufacturing the "cup-anvil" cartridge is \$26 per thousand; the cost of manufacturing the reloading cartridge is \$30 per thousand; a fair royalty would be 5 per cent of the cost.

IX.

The following are, in substance, the proceedings had in case No. 13793 between the same parties:

April 19, 1883. Petition filed.

May 18, 1883. Amendment to petition filed by allowance of judge at chambers.

June 4, 1883. Traverse filed.

July 25, 1883. Amendment to petition filed and allowed.

October 2, 1884. Amendment to petition filed and allowed.

December 15, 1884. Amendment to petition allowed.

January 10, 1885. Claimant's requests for facts and brief filed.

April 9, 1885. Additional brief for claimant filed.

April 13, 1885. Defendant's requests for facts and brief filed.

April 16, 1885. Argued and submitted.

April 16, 1885. Claimant's brief of argument filed.

April 20, 1885. Waiver filed by claimant.

June 1, 1885. Davis, J., filed the opinion of the court. Petition dismissed. Findings of fact filed.

August 14, 1885. Motions for new trial, amendment of findings, and for reversal of judgment filed by claimant.

August 21, 1885. Application for appeal filed by claimant.

December 14, 1885. Motion of claimant for new trial overruled, with leave to submit to the consideration of the court Findings II, III, IV, amended in the form requested by claimant in his motion, subject to objection of the defendants to their allowance.

October 8, 1886. Claimant's request for findings of fact filed under order of the court.

March 15, 1887. Requests, etc., of October 8, 1886, ordered to law docket.

April 15, 1889. Motion to amend findings continued.

November 18, 1889. Continued.

November 12, 1891. Motion of claimant to amend order of court filed.

November 16, 1891. Motion of claimant to amend order of court heretofore entered as to the evidence to be used on the trial allowed, subject to objections of defendants on the argument.

CONCLUSION OF LAW.

Upon the foregoing facts the court decide, as conclusion of law, that the petition be dismissed.



At a Court of Claims held in the city of Washington on the 23d day of December, 1895, judgment was ordered to be entered as follows:

The court, on due consideration of the premises, find for the defendants, and do order, adjudge, and decree that the claimant's petition be dismissed.

COURT OF CLAIMS¹⁸⁷⁰21

No. 16261.

WILLIAM WHEELER HUBBELL v. THE UNITED STATES

ORDER.

Motion of claimant for new trial overruled.

On plaintiff's request for further findings of fact, the following additional findings are now filed, and with the findings of the court heretofore filed are made the findings of fact herein. These findings, being in substance not different from those heretofore filed, do not, in the opinion of the court, affect the result heretofore reached herein.

ADDITIONAL FINDINGS OF FACT.

X.

On application filed January 23, 1872, and on a division, a patent was issued for a subcaliber bullet with bullet paper carrier (patent No. 126,058, dated April 23, 1872; specification, claims, and drawings thereof are made part of these findings); the claimant then reserved the right to make further application for priming invention of the cartridge.

XI.

Upon an application filed December 28, 1878, a patent was issued to claimant February 18, 1879; the specifications, claims, and drawings are made part of these findings.

Previous to the fall of 1866 experience in the manufacture of metallic cartridges at the Frankford Arsenal was limited to making a few of the Morse, Burnside, Maynard, and rim-fire cartridges for experimental purposes.

No order was made for the manufacture of center-fire cartridges at the Frankford Arsenal by officers of the United States Army before the fall of 1866.

About fifteen experimental cartridges, which proved failures, were made in 1866. All had hollow-flange cartridge cases.

These experiments were dropped and no more experiments of this kind were made.

Subsequent to these experiments and prior to 1868 an experimental primed metallic cartridge was made and abandoned, as shown on Plate VI, ordnance memorandum No. 14, which is made part of these findings.

Prior to 1868 some of what were known as Martin's bar anvil, as illustrated in ordnance memorandum No. 14, Plate X (made part of these findings), were tried. It had a hollow-flange metallic cartridge case, and was in 1868 abandoned (ordnance memorandum, text, Plate XIII), and was superseded by the cup-anvil cartridge.

After 1868 numerous experiments were made to reenforce the hollow flange to prevent it from bursting, some with single disks, and some with reenforce cups, and some with the cup anvil.

It was found "that the cup anvil, as used in the service, was only an anvil having no value as a reenforce." (Text, ordnance memorandum, Plate XXX, made part hereof.)

XII.

The cup-anvil cartridge was adopted by the Government in 1868, and has since been manufactured and used by it to July, 1871, when it was abandoned and the present reloading cartridge adopted in its stead.

Owing to the juxtaposition, construction, arrangement, and combination of its parts, this cartridge was best adapted to receive with certainty of fire the blows of the striker in the Springfield gun.

The manufacture of the reloading cartridge commenced at the Frankford Arsenal "in the month of July, 1879."

The solid-flange case, with a pocket or recess to reload, was known at the date of plaintiff's patent 212,313.

XIII.

The following exhibits and models are found as facts in the case:

Letters patent, with drawings, specifications, and claim, issued to Jabez H. Gill, numbered 220,472, on October 14, 1879.

Tracing drawing (filed April 13, 1865) to caveat of claimant.

Tracing drawing (filed April 13, 1865) with application of claimant.

Tracing drawing (filed January 17, 1872, No. 126,058) to application of claimant.

Tracing drawing (filed April 25, 1872) to application of claimant.

Tracing drawing (filed December 26, 1878) to patent No. 212,313. (Exhibit No. 1.)

Official drawings: United States Army service cartridge, cup-anvil cartridge, and reloading cartridge.

Ordnance Office official orders to load the reloading cartridge.

Ordnance memorandum No. 14, printed date April 22, 1873.

Printed digest of cartridges for small arms, to Bartlett and Gallatin, date 1878.

MODELS.

Cartridge in box, Ordnance Office, No. 2,598, filed May 31, 1872, by claimant.

Exhibit A, R. L. M. commander, No 13,793 (Q. 3 Rec., 105).

Exhibit of Government reloading cartridges.

Exhibit of Springfield rifle and army pistol.

Exhibit, claimant's Exhibit 1858 to application of April 13, 1865.

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Copy.

Court of Claims.

WILLIAM WHEELER HUBBELL }
 v. } No. 16261.
 THE UNITED STATES.

Order.

Since the decision of this case, December 23, 1895, both plaintiff and defendants move for additional findings, and upon these motions the following additional findings are filed, which, in the opinion of the court, do not affect the result heretofore reached:

At plaintiff's request.

In finding II the quotation at bottom of page is corrected and should read as follows:

1. A thinned central rear, sufficiently and only large enough to present annular striking face around the center hole of the anvil plate and opposite the central face of the anvil plate.

Finding IV, second paragraph of quotation from plaintiff's patent, after the words "peculiar construction" add the words "and combination."

To finding VII add this:

From 31st March, 1883, to 31st May, 1888, the United States manufactured 39,224,315 reloading cartridges and 65,841,675 primers.

The cup anvil cartridge has been manufactured and used by defendants until 1879, and finding XII is corrected accordingly.

The cup anvil cartridge is not claimed in this action as covered by plaintiff's patent.

In finding XII, second line, strike out 1871 and insert 1879.

At defendants' request.

Amend finding XII, third paragraph, so as to read:

The manufacture of the reloading cartridge with the grooved anvil disk referred to in finding VI commenced at the Frankford arsenal "in the month of July, 1879."

Amend finding XII, last paragraph, so as to read:

The solid flange case, with a pocket or recess to reload, has been made and used by the United States from the year 1872. From that year until the adoption of the grooved anvil disk described in finding VI (for which patent No. 220,472 was granted to Jabez H. Gill

October 14, 1879) various other anvil disks were made and used by the United States in this type of cartridge shell in large quantities, which anvil disks, though differing from the first-mentioned type in some respects, as well as from each other, secured adequate ventage from the fulminate chamber to the aper-

ture above the anvil by means of notches or openings through or at the outer portions of the said disks.

Amend finding XIII by adding the following :

Letters patent No. 53163, Mar. 13, 1866, to A. Moffatt.

78953, June 16, 1868, " R. J. Gatling.

87125, Feb. 23, 1869, " W. Tibbals.

87297, Feb. 26, 1869, " B. S. Roberts.

87735, Mar. 9, 1869, " J. R. Van Vechten.

90607, May 25, 1869, " W. Tibbals.

British letters patent No. 2906, Nov. 11, 1865, to J. Miller.

1658, June 5, 1867, " I. M. Milbank.

1184, Apr. 17, 1869, " E. T. Hughes.

1530, May 18, 1869, " J. H. Johnson.

26 [Endorsed:] Copy. Court of Claims. No. 16261. William Wheeler Hubbell vs. The United States. Order amending findings of fact of the court on motions of claimant and defendants. Filed Apr. 27, 1896. Court of Claims.

FOLDOUT(S) IS/ARE TOO LARGE TO BE FILMED

30

THE UNITED STATES OF AMERICA.

No. 212,313.

To all to whom these presents shall come :

Whereas William W. Hubbell, of Washington, District of Columbia, has presented to the Commissioner of Patents a petition praying for the grant of letters patent for an alleged new and useful improvement in cartridges, a description of which invention is contained in the specification, of which a copy is hereunto annexed and made a part hereof, and has complied with the various requirements of law in such cases made and provided; and

Whereas, upon due examination made, the said claimant is adjudged to be justly entitled to a patent under the law :

Now, therefore, these letters patent are to grant unto the said William W. Hubbell, his heirs or assigns, for the term of seventeen years from the eighteenth day of February, one thousand eight hundred and seventy-nine, the exclusive right to make, use, and vend the said invention throughout the United States and the Territories thereof.

In testimony whereof I have hereunto set my hand and caused the seal of the Patent Office to be affixed, at the city of Washington, this eighteenth day of February, in the year of our Lord one
31 thousand eight hundred and seventy-nine, and of the Independence of the United States of America the one hundred and third.

[SEAL.]

A. BELL,
Acting Secretary of the Interior.

Countersigned :

H. E. PAINE,
Commissioner of Patents.

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(2-175.)

WM. WHEELER HUBBELL }
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Filed with the Commissioner.

CLAIMANT'S EXHIBIT 1. E. Forrest, Commissioner.

DEPARTMENT OF THE INTERIOR,

[Vignette.]

UNITED STATES PATENT OFFICE.

To all persons to whom these presents shall come, Greeting :

This is to certify that the annexed is a true copy from the records of this office of the original drawing, filed December 28, 1878, in the matter of the letters patent granted William W. Hubbell February 18, 1879, number 212,313, for improvement in cartridges.

In testimony whereof I, John S. Seymour, Commissioner of Patents, have caused the seal of the Seal Patent Office, United Patent Office to be affixed this 1st day States of America. of August, in the year of our Lord one thousand eight hundred and ninety-four, and of the Independence of the United States the one hundred and nineteenth.

JOHN S. SEYMOUR,
Commissioner.

FOLDOUT(S) IS/ARE TOO LARGE TO BE FILMED

40

In the Court of Claims of the United States.

WILLIAM WHEELER HUBBELL }
vs. } No. 16261.
 THE UNITED STATES. }

From the judgment rendered in the above-entitled cause on 23d day of December, 1895, in favor of defendant, the claimant, on the 20th day of March, 1896, makes application for and gives notice of an appeal to the Supreme Court of the United States.

WM. WHEELER HUBBELL, *Claimant.*

The application is made subject to pending motions and not to supersede them.

WM. WHEELER HUBBELL, *Claimant.*

GEO. S. BOUTWELL,
Attorney of Record.

F. P. DEWEES, *Of Counsel.*

H.

Allowed in vacation July 6, 1896.

WILLIAM A. RICHARDSON,
Chief Justice.

(Endorsed:) Court of Claims. No. 16261. William Wheeler Hubbell *vs.* The United States. Application for an appeal to the Supreme Court of the United States. Filed March 20, 1896. J. R.

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In the Court of Claims.

WILLIAM W. HUBBELL }
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 THE UNITED STATES. }

I, Archibald Hopkins, chief clerk of the Court of Claims, do hereby certify that the foregoing are true transcripts of the pleadings in the above-entitled cause, of the findings of fact by the court and the conclusion of law thereon, of the judgment of the court, order overruling motion for a new trial, & additional findings of fact, & order filing additional findings of fact, plaintiff's patent 126,058, specifications & drawings, plaintiff's letters patent No. 212,313, specifications and drawings as filed, specifications of patent 220,472, drawings, & application for and allowance of appeal.

In testimony whereof I have hereunto set
 Seal Court of Claims. my hand and affixed the seal of said court,
 at Washington, this 13th day of June, 1896.

ARCHIBALD HOPKINS,
Chief Clerk Court of Claims.

Endorsed on cover: Case No. 16,336. Court of Claims. Term No., 198. William Wheeler Hubbell, appellant, *vs.* The United States. Filed July 14th, 1896.

OCTOBER TERM. 1897.

WILLIAM WHEELER HUBBELL, APPELLANT,
vs.
 THE UNITED STATES. } No. 198.

It is hereby stipulated by counsel for the parties to the above-entitled cause that the certified copy hereto attached of defendant's motion to amend findings and the action of the Court of Claims thereon may be added to the record of the case in this court, and may be printed by the clerk and copies sent to counsel.

F. P. DEWEES,
Counsel for Appellant.
J. K. RICHARDS,
Solicitor-General.

WILLIAM WHEELER HUBBELL, }
vs. } No. 16261.
 THE UNITED STATES. }

Now comes the Attorney-General, in behalf of the defendant, and moves this honorable court to amend the findings of fact in this case by adding thereto the following statement:

Counsel for defendant requested the court to find the following additional facts, which are proved by the evidence, but the court has refused to find them :

On December 28, 1878, the claimant filed in the United States Patent Office an application for a patent for an improvement in metallic cartridges, the specification and claims in which were as follows:

"My invention relates to the peculiar construction and combination of a circular metallic perforated plate with the circular fulminate carrier, and solid fire-tight metallic case and head in one piece, as will be hereinafter more fully set forth and described.

"In the accompanying drawing—

"Fig. 1 is a longitudinal section of my improved metallic cartridge.

"Fig. 2 is a plan view of the retaining disc or anvil.

"Fig. 3 is a diametric section of the fulminate carrier plate and anvil" and

"Fig. 4 is a plan view of the fulminate carrier.

"A is a cylindrical metallic cartridge case or shell with solid rear end L, in one piece therewith, and both fire-tight, open only at the front end B, to be primed and loaded at this front opening.

"D is a circular disc of paper or any suitable substance, perforated through the center, for the reception of the fulminate in this perforation or chamber C.

"This paper disc when charged with fulminate is placed against the bottom L, of the metallic case A; E is a circular metallic plate closely fitting inside of the case A, down upon the paper disc D, where it is held in place by contracting or pinching in the case A, which forces the plate E down upon the disc or base of the case and makes a tight joint around the edge of the plate.

"The plate E is provided with perforations *k, k*, upon either side of a central line drawn through its axis as shown at *h, h*, figures 2 and 3, sufficient space being left between these perforations to form the bar *i*, of a breadth nearly equal to the diameter of the perforation C, immediately over which it rests; F is the space in the cartridge which is loaded, as usual, with a charge of powder and bullet of any desired weight and shape. The fulminate chamber C may be recessed or formed in the metal of the circular plate E, with the central bar *i*, and two side perforations *k, k*, over it, dispensing with the paper. The central anvil affords a firm resistance to a central striker acting on the center of the base L, and compressing the fulminate to ignite it with certainty. The two side vents diffuse the fire into the base of the charge of powder, and its instant explosion presses back the circular anvil plate, and prevents it from being blown out in the barrel, the charge being consumed from the base forward without reaction of the fire or waste of the powder.

"Having described my invention, what I claim is—

"1st. The circular plate E, constructed with central solid resisting piece *i*, and two or more side perforations *k, k*, substantially as described, applied within a metal case, with cylinder and rear end solid and tight, thereby requiring the insertion of the plate and charge and priming from the front, igniting the charge and remaining fire tight in firing as described.

"2nd. The circular plate E, constructed as described in combination with the circular disc D, and metal solid fire-tight case A, substantially as shown and described.

"3rd. A circular metallic tight-fitting plate perforated into a central fulminate chamber, leaving a central solid or unperforated bar over the fulminate chamber, within a solid fire-tight metal case, substantially as set forth."

The examiners rejected the first and third claims on reference to patents of A. Moffatt, 53168, Mar. 13, 1866, and W. Tibbals, 90607, May 25, 1869 (cartridges), and English patent 2906 of 1865, and the second claim upon the English patent alone.

Thereupon the claimant amended his specification by adding the following:

"The distinguishing feature of my invention is the organized construction to carry into complete effect the expressed principles of operation of the fulminate of mercury or detonating powder and the powder charge.

In this organization the fulminate, although the superior explosive force, is contracted into a diminished or small central chamber and fills it. [Before the application was finally allowed the words "the flange and head of the metallic case are solid, all in one piece" were added here.] This chamber at its sides or outer extreme edges communicates directly and exclusively with the powder charge, so that the explosive force of the fulminate is not allowed to expand under a larger area of the anvil plate and blow it out, but is compelled to diffuse its explosive force not in a central stream, but in a diffused body into the base of the powder charge. To effect this the central anvil piece has no central aperture, is as wide as the fulminate-filled chamber, and the perforations are at the extreme outer sides of this fulminate for two purposes, one is to diffuse the fire from this center most thoroughly, the other is to have an unperforated anvil over and against the fulminate, as it rests solid in its chamber, to receive the central blow of a striker, and obtain complete resistance by the anvil bar, and yet have free escapement for the explosive force, at once from beneath the anvil plate, without any chamber or space for it to expand into under the plate. This assures a certain ignition, security of the anvil plate to keep its position, and a complete combustion of the powder charge, from the base forward, as it impels the bullet out of the gun."

He also substituted in place of the three original claims the following:

"Having thus described my invention, what I claim as new and desire to secure by letters patent is:

"The construction and arrangement of the chamber of fulminate, anvil, plate, perforations, and case, with the central constructed, filled chamber of fulminate powder in contact and between the base of the case and the circular anvil plate, with central anvil bar and two or more side perforations extending from the extreme sides of the chamber of fulminate into the base of the powder charge whereby the smallest area of resistance is presented to the fulminate explosion, and the fire is diffused in the base of the charge of powder and the greatest resistance is presented by the front face of the plate to the powder charge, consuming the powder and securing the plate as and by the means described."

The examiners held that the construction described in the specification as amended involved patentable novelty, and that a specific and well-defined claim might be allowed, but not the amended claim, it being "vague, indefinite, and ambiguous." Therefore the claimant withdrew the amended claim, substituting the following, which was allowed:

"In the bottom of a solid metallic flange cartridge case or shell the combination of a circular base inclosing a central chamber of fulminate and an anvil over the fulminate provided with two or more openings whose inner edges nearly coincide with the edges of the central chamber of fulminate in the base of the cartridge, substantially as described."

The object of this motion is to enable defendant's counsel to bring before the Supreme Court the fact that the court was requested to find the above statements of fact, and refused so to do.

J. E. DODGE,

Assistant Attorney-General.

CHARLES C. BINNEY,

Assistant Attorney in Charge of Case.

The above I believe are correct extracts from the file wrapper and contents in Patent 212313 of record in this case. The relevancy of the same to the issue not admitted.

F. P. DEWEES,
Attorney for Claimant.

Overruled. The file wrapper and contents on an application for a patent do not constitute such facts as the court is required to find under Rule 1 of the Supreme Court relating to appeals from the Court of Claims.

By the court.

W. A. R., *Ch. J.*

MAY 18, 1896.

Thereupon on the 23d day of May, 1896, the above motion to amend findings was renewed by defendant, upon which the court made the following order:

No further action of the court is necessary on this motion. When the transcript of record on appeal is made, the clerk will insert the defendant's motion and the order of the court overruling the same.

I hereby certify that the foregoing is a true copy of the defendant's motion to amend findings with the orders of the court in relation thereto, and which appears of record in the above-entitled cause.

In testimony whereof I have hereunto set my hand and affixed the seal of said court at Washington this twenty-second day of October, A. D. 1897.

[SEAL.]

ARCHIBALD HOPKINS,
Chief Clerk.

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